

PENDING CLAIMS

Claims 1 and 3-17 (canceled).

Claim 2 (previously canceled).

18. (new) A method of simultaneously making a plurality of sintered articles for throwaway tips of an accuracy of at least M-grade accuracy, from green compacts said method comprising:

filling raw material powder into a cavity formed in a die;

press forming said raw material powder to form a plurality of green compacts,

placing said green compacts on a sintering plate having a center; and

sintering said green compacts simultaneously to form said sintered articles,

wherein each of said green compacts has a decreasing gradient across said green compact,

and

wherein each of said green compacts is substantially oriented on said sintering plate in plan view with said gradient decreasing outwardly from the center of said sintering plate.

19. (new) A method as defined in claim 18, wherein said gradient comprises a density gradient.

20. (new) A method as defined in claim 18, wherein said gradient comprises a dimensional gradient of the difference between said green compact and said sintered article.

21. (new) A method as defined in claim 18, wherein said gradient comprises a density gradient and a dimensional gradient of the difference between said green compact and said sintered article.

22. (new) A method as defined in claim 18, wherein said accuracy is approximately G-grade accuracy.

23. (new) A method as defined in claim 18, wherein said green compacts are placed radially on said sintering plate with respect to the center of said sintering plate.

24. (new) A method as defined in claim 18, wherein said green compacts are placed concentrically on said sintering plate with respect to the center of said sintering plate.

25. (new) A method as defined in claim 18, wherein a lower punch is provided in the cavity having an opening in the top face of the die to move vertically relative to the die; and

wherein a raw material powder feed box above the top face of the die moves across the top face, to supply raw material powder to fill the cavity while the lower punch is vertically moved so that the filling quantity of the raw material powder is controlled.

26. (new) A method as defined in claim 18, wherein an upper portion of the filled raw material powder is scraped from the die.

27. (new) A method of simultaneously making a plurality of sintered articles for throwaway tips of an accuracy of at least M-grade accuracy, from green compacts said method comprising:
filling raw material powder into a cavity formed in a die;

press forming said raw material powder to form a plurality of green compacts;
placing said green compacts on a sintering plate; and
sintering said green compacts simultaneously to form said sintered articles;
wherein each of said green compacts has a decreasing gradient across said green compact,
wherein each of said green compacts is substantially oriented on said sintering plate in plan
view with said gradient decreasing outwardly from the center of said sintering plate, and
wherein a plurality of said green compacts are divided into a plurality of green compact
groups respectively extending from the center of said sintering plate toward the outer
circumference thereof in plan view.

28. (new) A method as defined in claim 27, wherein said gradient comprises a density gradient.

29. (new) A method as defined in claim 27, wherein said gradient comprises a dimensional
gradient of the difference between said green compact and said sintered article.

30. (new) A method as defined in claim 27, wherein said gradient comprises a density gradient
and a dimensional gradient of the difference between said green compact and said sintered article.

31. (new) A method as defined in claim 27, wherein said accuracy is approximately G-grade
accuracy.

32. (new) A method as defined in claim 27, wherein a plurality of said green compacts are divided into four groups.

33. (new) A method as defined in claim 27, wherein the green compacts in the same green compact group are placed parallel to each other.

34. (new) A method as defined in claim 27, wherein a plurality of said green compacts are placed on the sintering plate in a lattice shape in plan view.

35. (new) A method as defined in claim 27, wherein a plurality of said green compacts are placed on the sintering plate in zigzag shape in plan view.

36. (new) A method as defined in claim 27, wherein a lower punch is provided in the cavity having an opening in the top face of the die to move vertically relative to the die; and

wherein a raw material powder feed box above the top face of the die moves across the top face, to supply raw material powder to fill the cavity while the lower punch is vertically moved so that the filling quantity of the raw material powder is controlled.

37. (new) A method as defined in claim 27 , wherein an upper portion of the filled raw material powder is scraped from the die.

38. (new) A method of simultaneously making a plurality of sintered articles for throwaway tips of an accuracy of at least M-grade accuracy, from green compacts said method comprising:

filling raw material powder into a cavity toward in a die;

press forming said raw material powder to form a plurality of green compacts;

placing said green compacts on a sintering plate having a center; and

sintering said green compacts simultaneously to form said sintered articles,

wherein said green compacts have a decreasing gradient across said green compact, and

wherein said green compacts are substantially oriented on said sintering plate in plan view with said gradient decreasing outwardly from the center of said sintering plate.

39. (new) A method as defined in claim 38, wherein said gradient comprises a density gradient.

40. (new) A method as defined in claim 38, wherein said gradient comprises a dimensional gradient of the difference between said green compact and said sintered article.

41. (new) A method as defined in claim 38, wherein said gradient comprises a density gradient and a dimensional gradient of the difference between said green compact and said sintered article.

42. (new) A method as defined in claim 38, wherein said green compacts have an identical decreasing gradient across the green compact.

43. (new) A method as defined in claim 38, wherein said accuracy is approximately G-grade accuracy.

44. (new) A method as defined in claim 38, wherein said green compacts are placed radially on said sintering plate with respect to the center of said sintering plate.

45. (new) A method as defined in claim 38, wherein said green compacts are placed concentrically on said sintering plate with respect to the center of said sintering plate.

46. (new) A method as defined in claim 38, wherein a lower punch is provided in the cavity having an opening in the top face of the die to move vertically relative to the die; and

wherein a raw material powder feed box above the top face of the die moves across the top face, to supply raw material powder to fill the cavity while the lower punch is vertically moved so that the filling quantity of the raw material powder is controlled.

47. (new) A method as defined in claim 38, wherein an upper portion of the filled raw material powder is scraped from the die.

48. (new) A method of simultaneously making a plurality of sintered articles for throwaway tips of an accuracy of at least M-grade accuracy, from green compacts said method comprising:

filling raw material powder into a cavity formed in a die;

press forming said raw material powder to form a plurality of green compacts;

placing said green compacts on a sintering plate; and
sintering said green compacts simultaneously to form said sintered articles,
wherein said green compacts have a decreasing gradient across said green compact,
wherein said green compacts are substantially oriented on said sintering plate in plan view
with said gradient decreasing outwardly from the center of said sintering plate, and
wherein a plurality of said green compacts are divided into a plurality of green compact
groups respectively extending from the center of said sintering plate toward the outer
circumference thereof in plan view.

49. (new) A method as defined in claim 48, wherein said gradient comprises a density gradient.

50. (new) A method as defined in claim 48, wherein said gradient comprises a dimensional
gradient of the difference between said green compact and said sintered article.

51. (new) A method as defined in claim 48, wherein said gradient comprises a density gradient
and a dimensional gradient of the difference between said green compact and said sintered article.

52. (new) A method as defined in claim 48, wherein said green compacts have an identical
decreasing gradient across the green compact.

53. (new) A method as defined in claim 48, wherein said accuracy is approximately G-grade accuracy.

54. (new) A method as defined in claim 48, wherein a plurality of said green compacts are divided into four groups.

55. (new) A method as defined in claim 48, wherein the green compacts in the same compact groups are placed parallel to each other.

56. (new) A method as defined in claim 48, wherein a plurality of said green compacts are placed on the sintered plate in a lattice shape in plan view.

57. (new) A method as defined in claim 48, wherein a plurality of said green compacts are placed on the sintered plate in zigzag shape in plan view.

58. (new) A method as defined in claim 48, wherein a lower punch is provided in the cavity having an opening in the top face of the die to move vertically relative to the die; and

wherein a raw material powder feed box above the top face of the die moves across the top face, to supply raw material powder to fill the cavity while the lower punch is vertically moved so that the filling quantity of the raw material powder is controlled.

59. (new) A method as defined in claim 48, wherein an upper portion of the filled raw material powder is scraped from the die.

60. (new) An apparatus for aligning a plurality of green compacts, comprising:

a sintering plate holder for horizontally holding the sintering plate; and

a conveyance mechanism for holding and conveying a plurality of green compacts to be placed on said sintering plate,

wherein said sintering plate holder has a rotation mechanism for rotating and positioning said sintering plate at each angle of rotation around its vertical axis, and

wherein said green compact is placed on said sintering plate, so that said green compact is substantially oriented on said sintering plate in plan view outwardly from the center of said sintering plate.

61. (new) An apparatus as defined in claim 60, wherein a plurality of said green compacts are radially or concentrically placed on the sintering plate in plan view.

62. (new) The apparatus as defined in claim 60, wherein a plurality of said green compacts placed on the sintering plate are divided into a plurality of green compact groups respectively extending from an inner circumferential center of the sintering plate to the outer circumference thereof in plan view.

63. (new) An apparatus as defined in claim 62, a plurality of said green compacts are divided into four groups.

64. (new) An apparatus as defined in claim 62, wherein the green compacts in the same green compact group are placed parallel to each other.

65. (new) An apparatus as defined in claim 62, wherein a plurality of said green compacts are placed on said sintering plate in a lattice shape in plan view.

66. (new) An apparatus as defined in claim 62, wherein a plurality of said green compacts are placed on said sintering plate in a zigzag shape in plan view.

67. (new) An apparatus as defined in claim 60, wherein said green compacts have a decreasing gradient across said green compact, and

wherein said green compacts are oriented on said sintering plate in plan view with said gradient decreasing outwardly from the center of said sintering plate.